

Connascence



Michael Meissner 05.04.2023

Connascence Agenda

- Introduction
- Dimensions
 - Timing Example
- Conclusion



Connascence Introduction

from Latin: **co-** + **nascence**

“together”

nascentem ⇒ “arising young, immature”,
present participle of ***nasci*** ⇒ “to be born”

[software quality metric](#) invented by [Meilir Page-Jones](#)

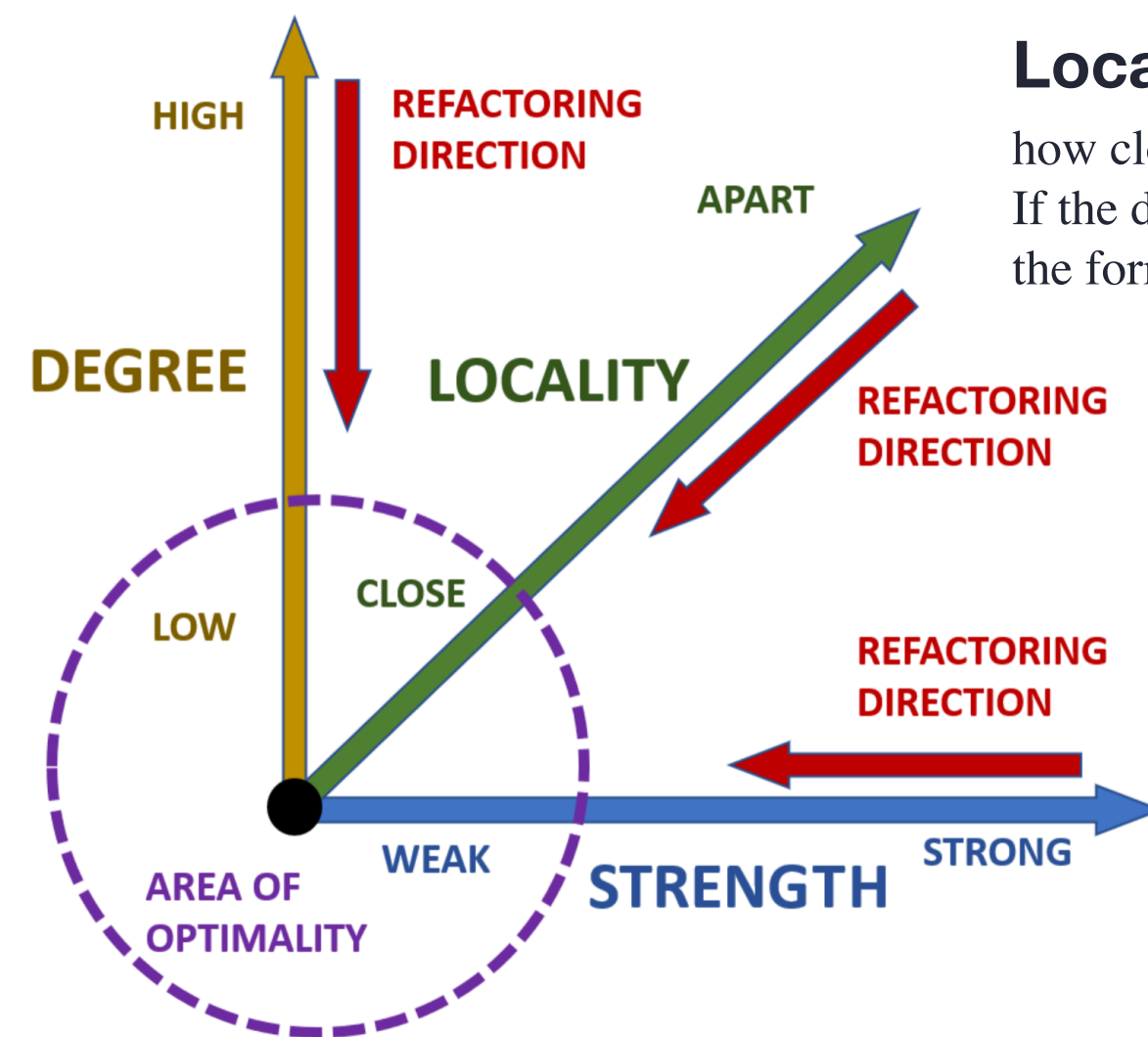
“2 elements A,B are connascent
if there is at least 1 possible change to A
that requires a change to B
in order to maintain overall correctness” — [Meilir Page-Jones](#)



Connascence 3 Dimension

Taxonomy in 3 dimensions

- DEGREE
- LOCALITY
- STRENGTH



Locality

how close are the two software elements to each other?
If the distance between software elements increases,
the forms of connascence should be weaker.

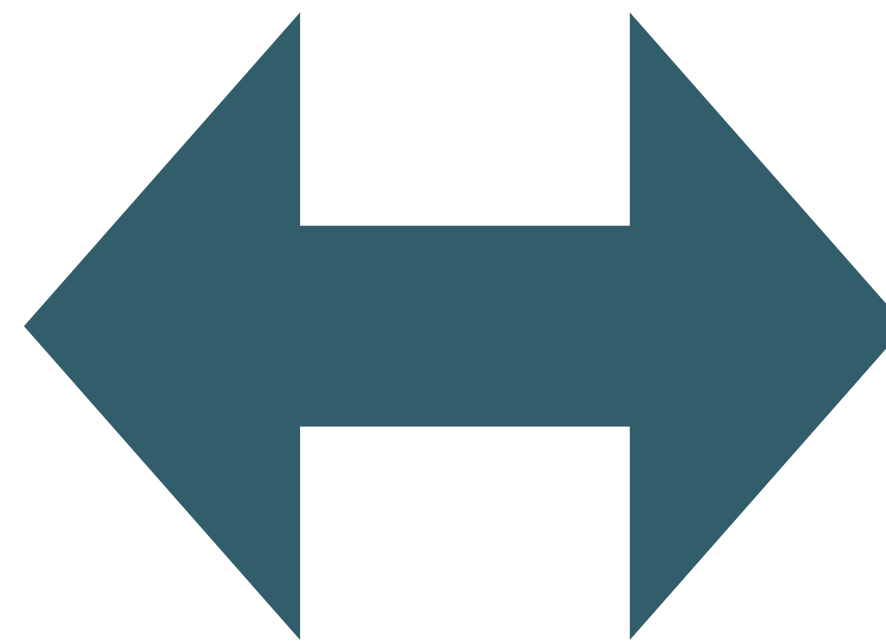


Connascence Locality



Locality

how close are the two software elements to each other?
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Maximize
Cohesion

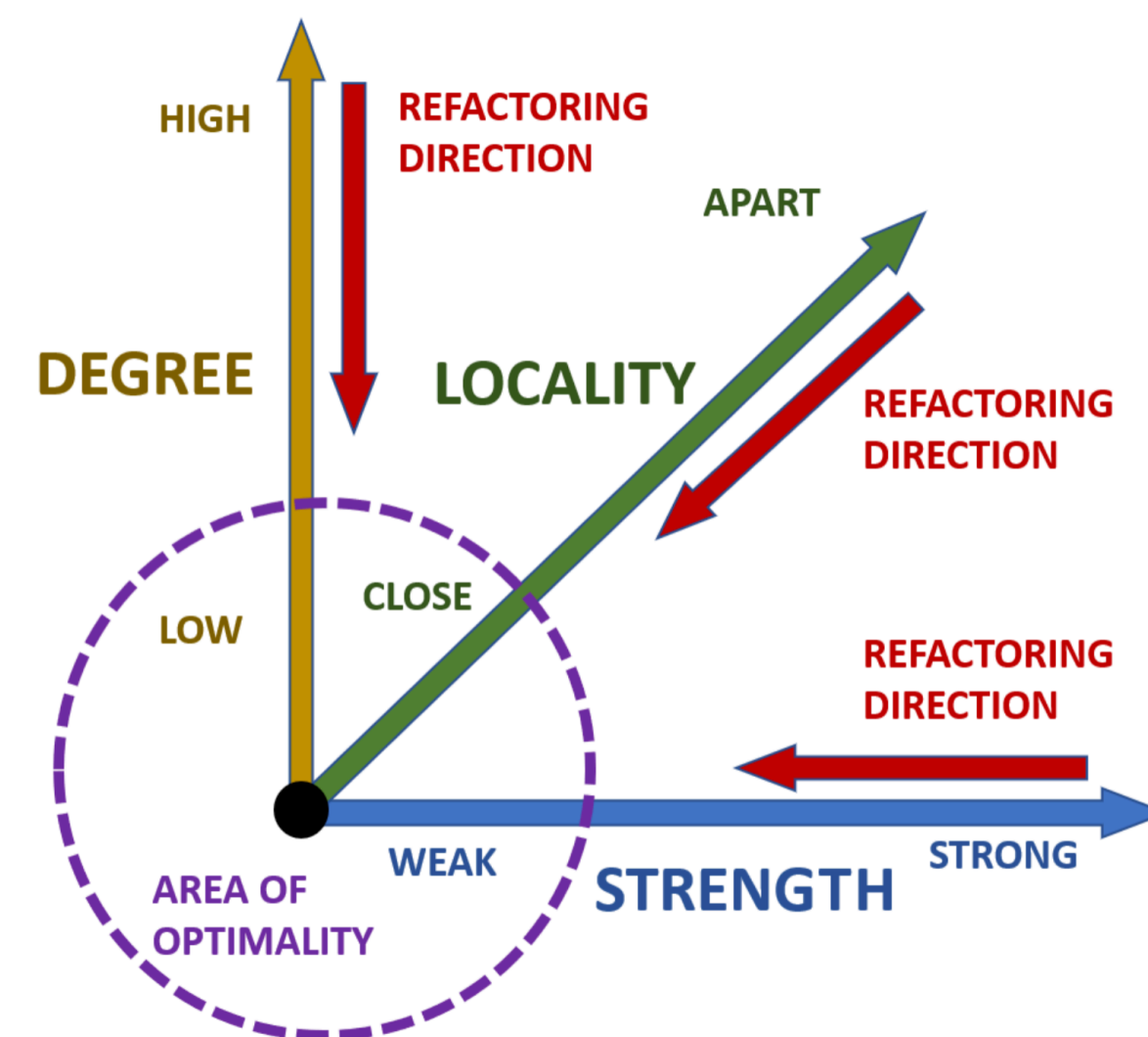
Minimize
Coupling



Connascence 3 Dimension

Taxonomy in 3 dimensions

- **DEGREE**
- **LOCALITY**
- **STRENGTH**



Strength

The more implicit a form of connascence is, the more time consuming and costly it is to detect. Also, a stronger form of connascence is usually harder to refactor. This is why static forms of connascence are weaker and easier to detect than the dynamic ones.



Connascence Strength

Strong

Weak

- 10 *Manual task*
- 9 *Identity*
- 8 *Value*
- 7 *Timing*
- 6 *Execution order*
- 5 *Position*
- 4 *Algorithm*
- 3 *Meaning (Convention)*
- 2 *Type*
- 1 *Name*

Dynamic
(discoverable
only at runtime)

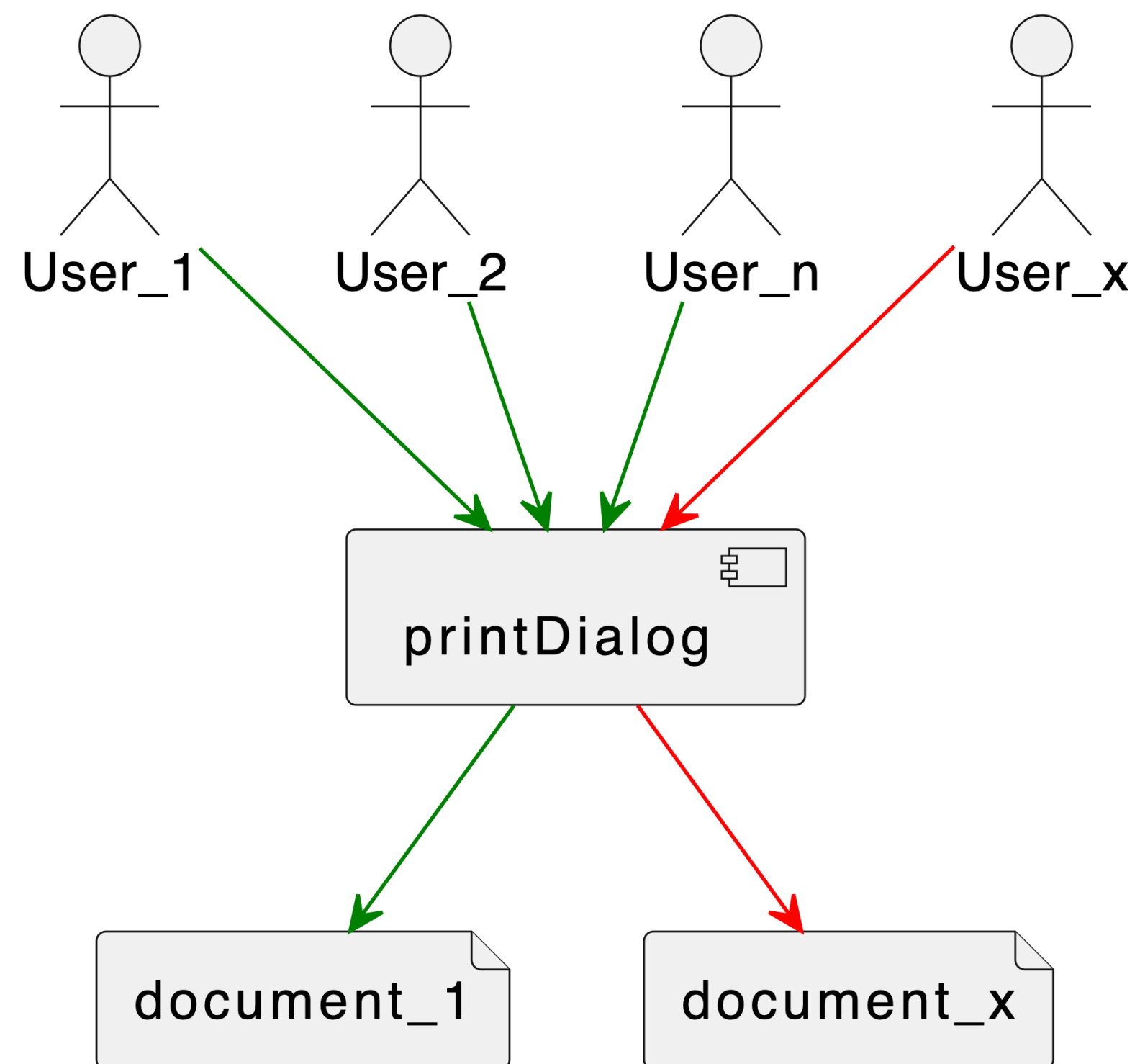
Static
(discoverable by
visually
examining the
code)



Connascence

Strength : Identity

Special Form



Connascence

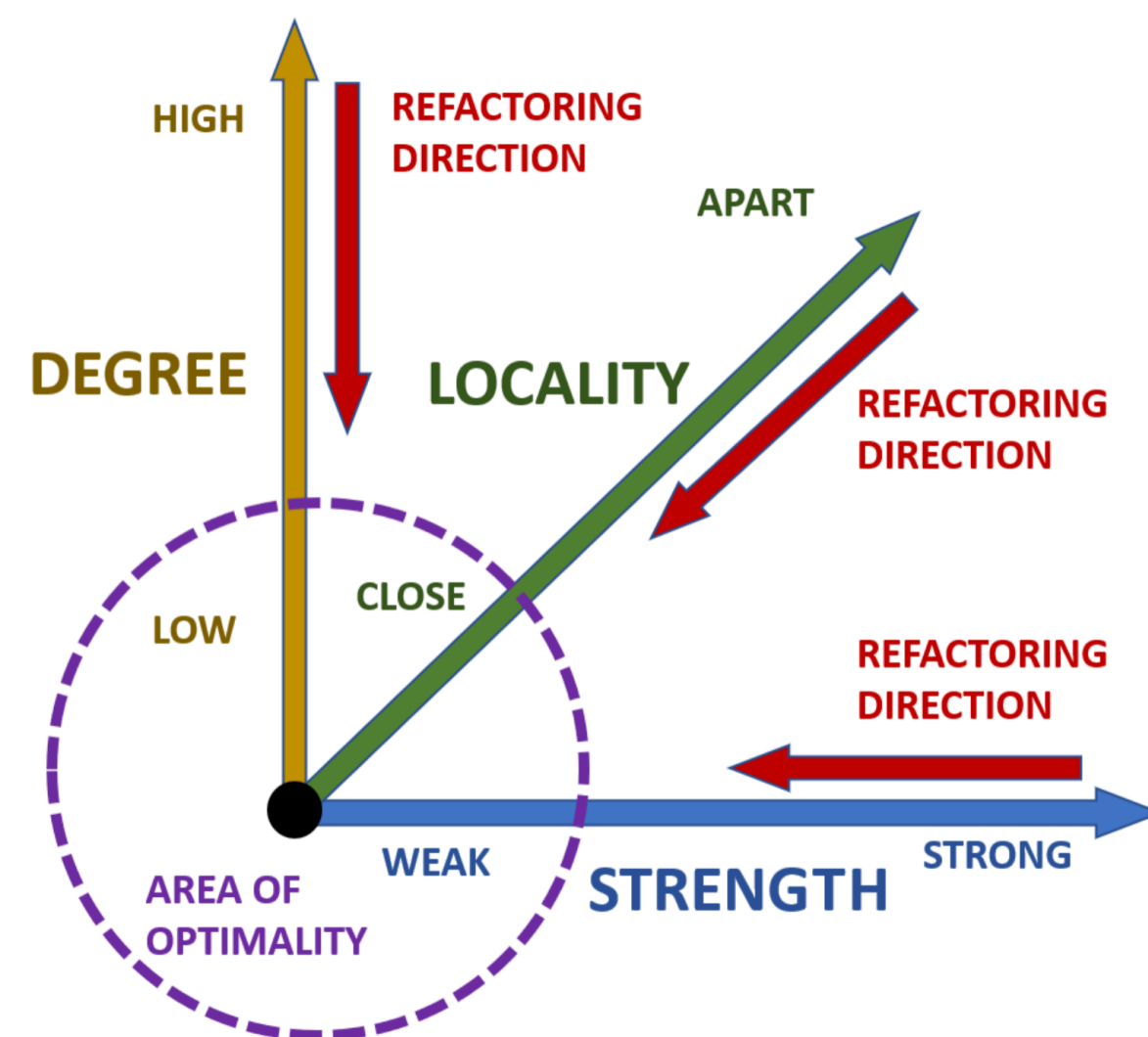
3 Dimension

Taxonomy in 3 dimensions

- DEGREE
- LOCALITY
- STRENGTH

Degree

The degree of an instance of connascence is related to the size of its impact.



Connascence

Degree :1&2



Connascence
Degree : n



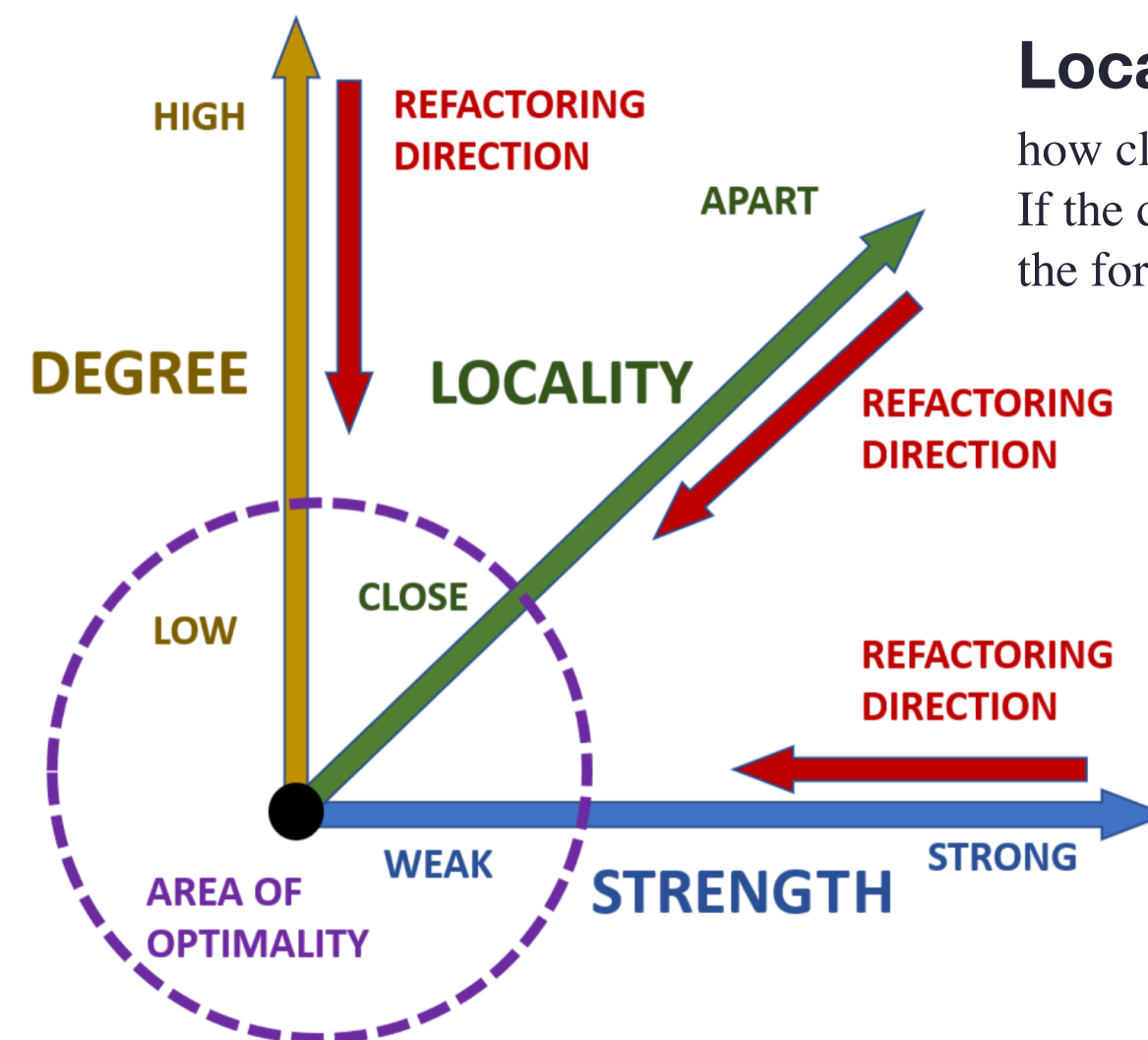
Connascence Conclusion

Taxonomy in 3 dimensions

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Strength

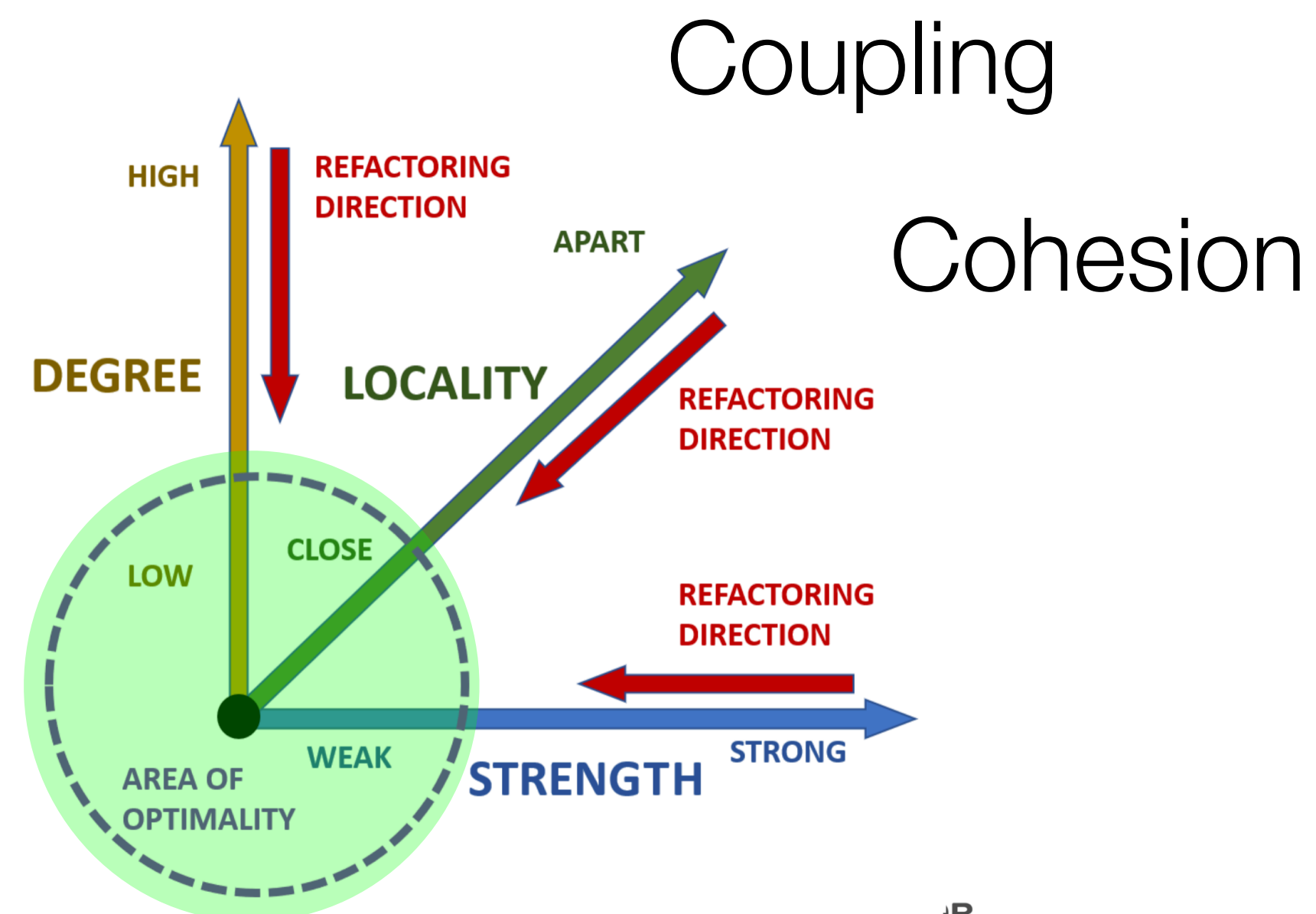
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Connascence Conclusion

Taxonomy in 3 dimensions

- DEGREE
- LOCALITY
- STRENGTH



Questions



References

- ALCOR Presentation Connascence
- Image: <https://cdn1.stuttgarter-zeitung.de/media.media.b4d76204-ecae-4173-aeb9-fd674e23a495.original1024.jpg>
- <https://kleinaberstark.com/beste-baby-laufgitter/>
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- <https://www.youtube.com/watch?v=e1IJ4KZ49ul&list=WL&index=6>
- <https://www.maibornwolff.de/know-how/connascence-regeln-fuer-gutes-software-design/>
- <https://dzone.com/articles/about-connascence>
- <https://www.plantuml.com/plantuml/png/SoWkllmgAStDuKfCBialKWWjJYsADqJc625pyf0v5Lp9-Ra5-NcfUIKA1KMPUIKkcOav-UbSQPavgGef-ScbkK2PU4DKFb0Nn0u5tMZbzABKrBnONJiKxH1RyKIduPUk04aNfQQWloAnKGn0E1PP2S8GPDSxfEQb0CCB0000>



Thank You

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Appendix

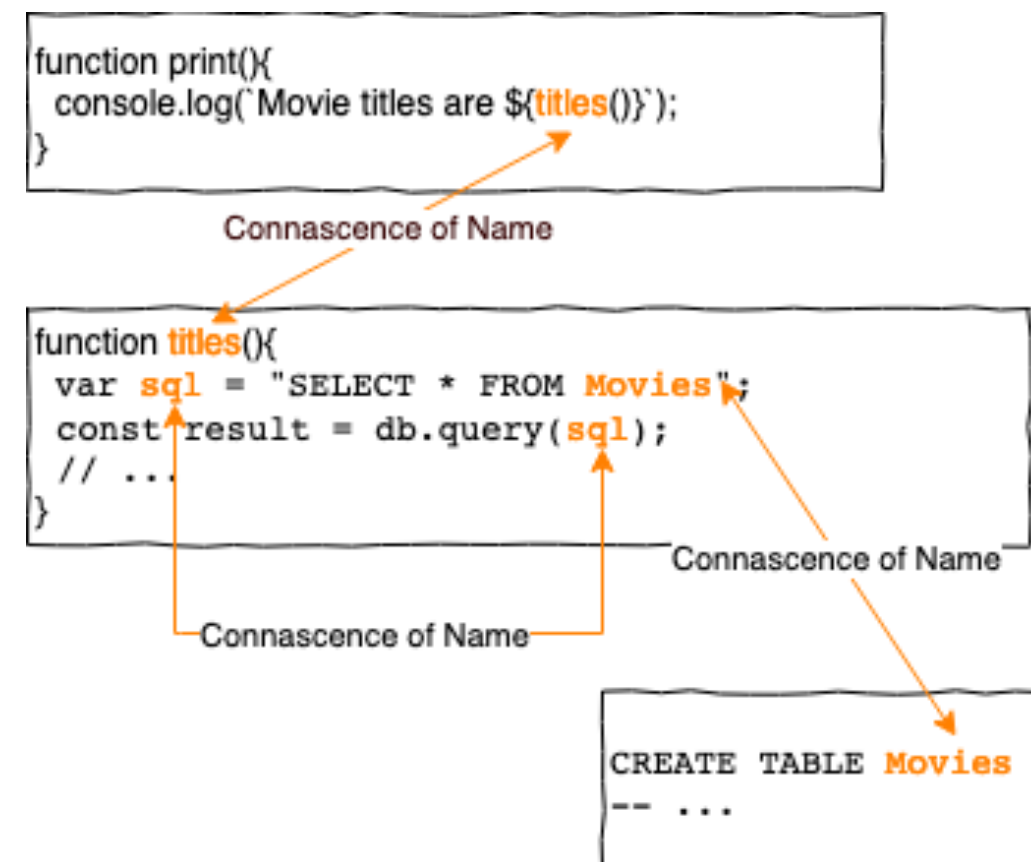
Checkliste

- Persönlich
- Bilder
- Wenig Text
- Animationen
- Code auf weissen Hintergrund



Connascence static

Connascence of Name (CoN)



Connascence static

Connascence of Type (CoT)

```
function printRentalStatement(){  
  const rentalDays = movieRentalDaysSince(new Date('2013-11-6'));  
  console.log(' Movie rented for ${rentalDays} days');  
  // ...  
}
```

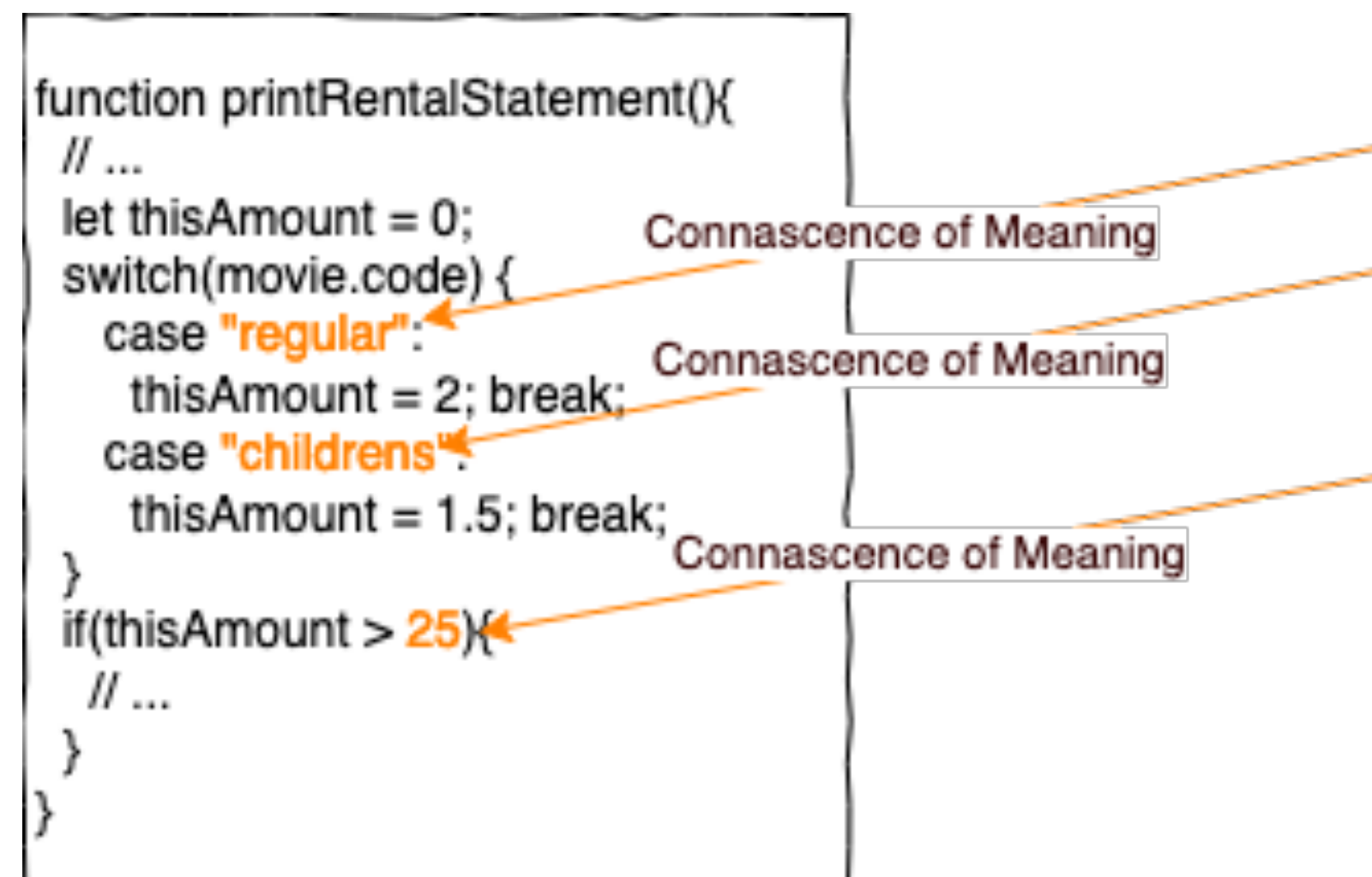
Connascence of Type

```
function movieRentalDaysSince(date){  
  // ...  
}
```



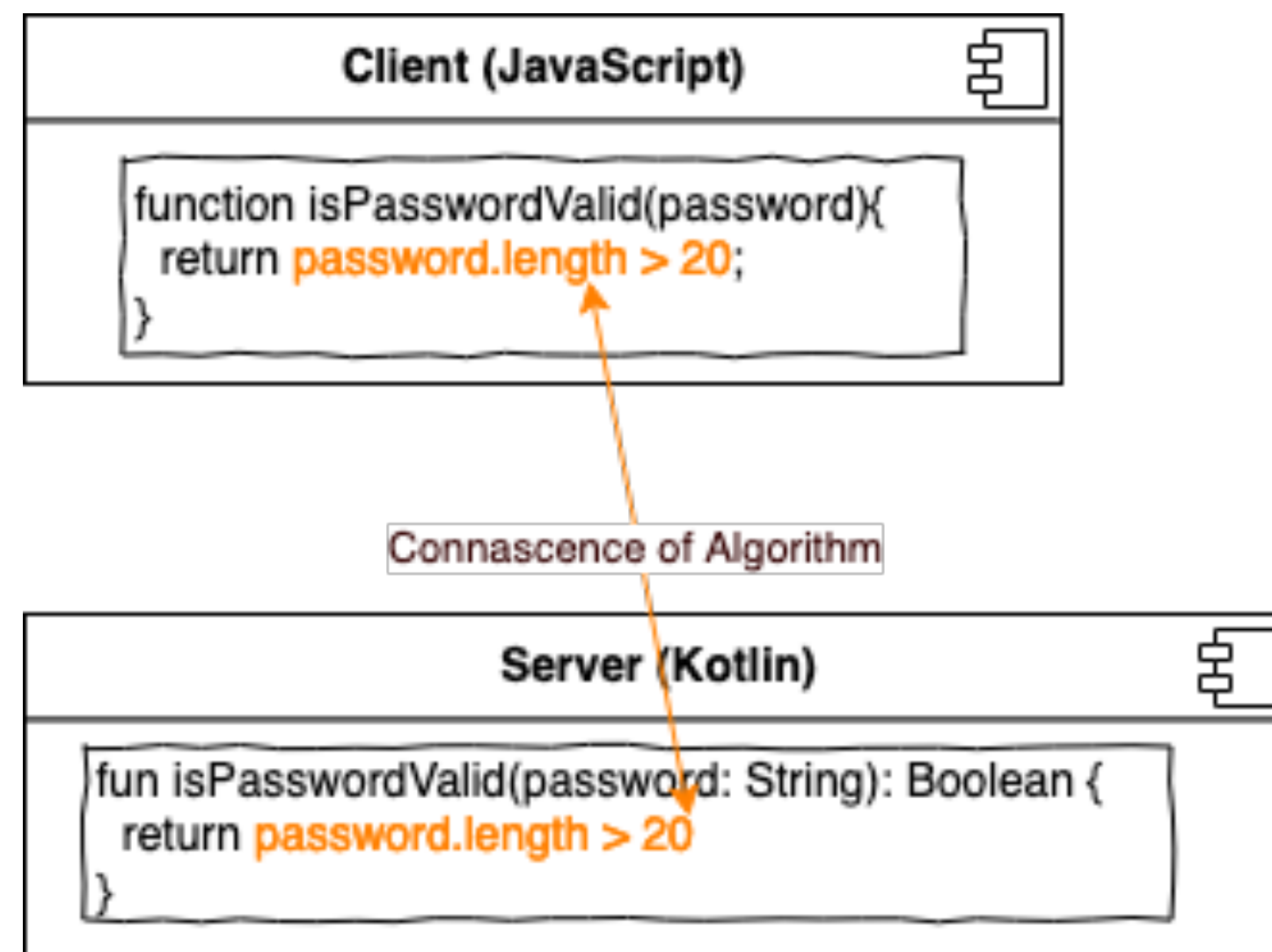
Connascence static

Connascence of Convention (CoC)



Connascence static

Connascence of Algorithm (CoA)



Connascence static

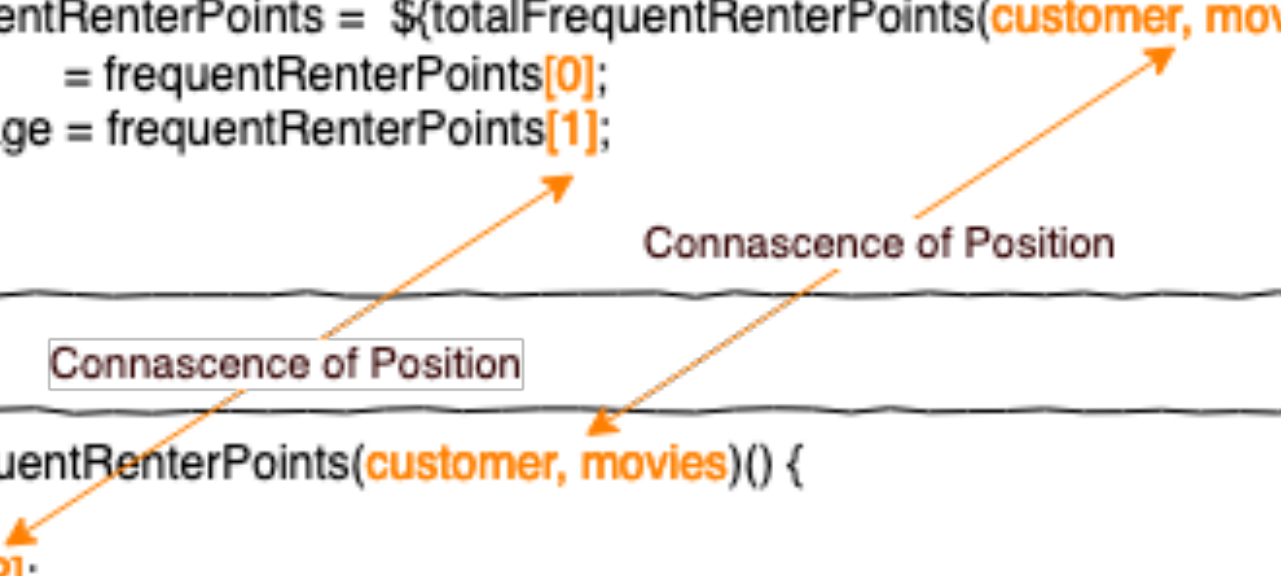
Connascence of Position (CoP)

```
function printRentalStatement() {  
  const frequentRenterPoints = `${totalFrequentRenterPoints(customer, movies)}`;  
  const total    = frequentRenterPoints[0];  
  const average = frequentRenterPoints[1];  
  // ...  
}
```

Connascence of Position

```
function frequentRenterPoints(customer, movies) {  
  // ...  
  return [4, 12];  
}
```

Connascence of Position



Connascence dynamic

Connascence of Execution (Order) (CoE)

